

## **REMARKS**

Claims 1-20 are pending in the application. Claims 7, 8, 10, 11, 13, and 14 have been amended hereby. Claims 1, 15, and 20 are in independent form. Favorable reconsideration is requested.

Claims 7, 8, 10, 11, 13, and 14 have been amended to correct their dependencies. Withdrawal of the objection of the claims is requested.

Reconsideration is respectfully requested of the rejection of Claims 1-20 under 35 U.S.C. §103(a), as being obvious over U.S. Patent No. 5,804,752 (“Sone”) in view of U.S. Patent No. 5,511,053 (“Jae-Chang”).

The Office Action on page 3 concedes that Sone does not teach or suggest the following features of the presently claimed invention, as recited in independent Claims 1, 15, and 20:

- i. that a detected offset is applied as a relative displacement between the user and target actions [i.e. to correct for a delay];
- ii. that the target actions are grouped as successive groups of target actions;
- iii. that the timing offset is detected at the beginning of each group; and
- iv. the timing offset is applied for the duration of the respective group.

The Office Action cites Jae-Chang as curing these deficiencies. For the following reasons it is respectfully submitted that Jae-Chang does not cure the deficiencies of Sone.

Regarding feature i, above, we first note that Jae Chang teaches comparing the user's input with a synchronization signal “a”, which is separate to the audio signal “b” and is not heard by the user – see column 3 lines 21-25 and 51-57 of Jae-Chang.

As such, this synchronization signal “a” cannot be reasonably equated with the separately specified target action (i.e. the music “b” to sing along to). This has the disadvantage that the

system of Jae-Chang requires a specially encoded supplemental synchronization track to be included with playback media, which is not required by the present invention.

We next note that a timing offset is not in fact applied at all in Jae-Chang; rather, the detected offset is used to adjust the playback speed of the music track; see Col 2 lines 56-61, Col 4 lines 43-47, and Col 5 lines 23-29 of Jae-Chang. Thus in this citation “if the song is sung too slowly, or the song is sung too fast” then the system changes the tempo (speed) of playback to match the singer, thereby achieving the patent’s stated aim of reducing cacophony (see Col 1 lines 39-44).

In contrast, the present invention is not concerned with whether a song is sung too slowly or too quickly, but with whether the singer starts too early or (more likely) too late; this time delay is then factored into the scoring of the song in order to make the scoring fair.

A simple example that demonstrates the fundamental difference in operation between Jae-Chang and the presently claimed invention would be where the singer is a long way from the music loudspeakers, so that there is an appreciable delay due to acoustic propagation. For example, in a large hall the delay between output of the music and the sound reaching the singer may be 1/3 of a second. As a result, the singer will show an apparent delay of 1/3 second even when, subjectively, s/he is singing exactly on time. The present invention detects this delay and compensates for it when scoring. As the singer moves around the hall, the delay is detected anew for each group of target actions (e.g. for each line of song).

Meanwhile, using the system of Jae-Chang, the “perfect” singer will again exhibit the 1/3 second delay due to acoustic propagation; but now this delay will prompt the playback of the music to slow down, as noted previously. However, the audio propagation delay will still be 1/3

of a second and so the singer, matching the music as played, will cause the music to slow down again and again by being consistently 1/3 second late. Clearly this is not a satisfactory outcome.

Therefore, it will be appreciated by the Examiner that the presently claimed invention, and in particular feature i. above, is fundamentally different to that of Jae-Chang and advantageously results in a wholly different mode of operation to that of Jae-Chang.

A person skilled in the art, taking the teaching of Jae-Chang and applying it to Sone, would adapt Sone to be able to change the playback speed of the music in the manner described above. However, they would not arrive at the claimed system where a user delay measured at the start of a group of target actions was used to correct the scoring of the user for duration of that group of target actions.

For completeness, regarding features ii, iii and iv, Jae-Chang states that a plurality of synchronization signals are recorded for one song “to thereby be used as a tempo gauge” (see Col 3 lines 51-56). However, there is no teaching regarding target actions (notes of a song) and that they should in any way be grouped together. Moreover, as noted above such a grouping is not used as a unit over which a delay is applied to correct the scoring of the user.

Accordingly, it is respectfully submitted that independent Claims 1, 15, and 20, and the claims depending therefrom, are patentably distinct over Sone in view of Jae-Chang.

In view of the amendments and remarks set forth above, this application is believed to be in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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